The Eye Clinic for the Mentally Retarded in Copenhagen,
Sognevej 40, Copenhagen, 2820 Gentofte, Denmark

Annual Report for 1968

The Eye Clinic is staffed by one half-time ophthalmologist and one part-time secretary.

The Eye Clinic is open to all patients registered at one of the two Centres in Copenhagen run by the Danish National Service for the Mentally Retarded and may, in special cases, also serve patients from other parts of Denmark. Patients are subjected to medical examination only when they are referred to the Eye Clinic by a doctor.

The principal activities of the Eye Clinic are examination and treatment of ocular affections in the patients and consultative work with a view to diagnoses of neuro-ophthalmological and medical diseases. In 1967, the Eye Clinic had 422 consultations and saw 278 patients. In 1968, the corresponding figures were 382 and 295. At the end of 1968, the waiting list comprised 96 patients as against 130 in 1967, and a total of 140 patients were listed for check-up examinations in 1969.

Patients with acute ophthalmological and neurological diseases are examined without any waiting time. The same applies to children up to 5-6 years of age suffering from strabismus; patients in whom other members of the medical staff have found severe impairment of vision; persons admitted to the institutions in Copenhagen for a closer clinical evaluation; and patients who are studied in special scientific projects by doctors associated with the general medical staff of the institutions. These patients, who are received without any waiting time, and those put down for check-up examinations represent a heavy burden on our waiting list. It must be expected that, in 1969, some patients will have to wait 10-12 months before they can be examined.

Classification of Diseases

Our statistics are based on the WHO International Classification of Diseases. A survey of the patients examined is given below. It should be noted that each

patient is listed only once, viz. under the principal diagnosis. However, as many of our patients have several co-existing ocular affections, it is sometimes difficult to decide which should be regarded as the principal diagnosis, as this depends on the underlying clinical considerations. Thus, if the disease which is amenable to therapy is regarded as the most important, errors of refraction will become predominant. On the other hand, if the disease which has led to the most extensive changes in the morphology of the eyes is put down as the principal diagnosis, malformations will be given a prominent position. Finally, if the condition which at the time of examination gave rise to the patient's actual complaints is chosen as the principal diagnosis, this will result in an overrepresentation of trivial infections and secondary cases of strabismus. – In this survey, the ocular disease which led to the most extensive changes in the morphology of the eyes was chosen as the principal diagnosis.

In order to remedy this skewness, we prepare quarterly surveys by means of punch cards on which all symptoms and diseases affecting the general health encountered in all the individual patients are recorded. These records show that during the past year we saw 76 patients with convergent strabismus and 46 with divergent strabismus.

Errors of refraction were encountered as follows:

	No. of cases
Hypermetropia $\geqq +2.0$ D	98
Simple myopia $\leqq -1.0$ D	18
Excessive myopia $\leqq -6.0$ D	33
Hypermetropic astigmatism	19
Myopic astigmatism	12
Total	180

Spectacles for distance was given to 59 patients. Of these, 23 wore spectacles before the examination, but the power had to be changed. A total of 132 patients wore spectacles for distance.

Spectacles for near vision was given to 32 patients, including eight who wore spectacles before the examination, but had to have the power changed. Spectacles for near vision was used by a total of 60 presbyopic patients. A total of 71 patients of over 40 years of age were examined.

Visual Acuity

Testing of visual acuity is very difficult in many of our patients who in addition to mental retardation may suffer from dysphasia; 38 patients had no language at all. Among the 295 patients examined, regular tests for visual acuity could not be performed in 81, but by making these patients try to retrieve coloured sugar balls of different sizes the visual acuity was estimated as "fairly normal" in 53 cases, while five patients were found to be partially sighted and three were felt to have a visual acuity of less than 6/60. In the remaining 214 patients, conventional objective tests for visual acuity could be performed.

Registration of Blindness and Low Vision

The Classification of Causes of Blindness, which was devised by *Dr. J. Schappert-Kimmijser,* of Holland, and later approved by the International Association for the Prevention of Blindness, is used as the basis for the registration of the cases of blindness observed in our Eye Clinic. Blindness is here defined as a visual acuity of 6/60 or less.

The results of this registration during 1967 and 1968 are presented in the accompanying tables. Each patient is listed only once, even though many patients came for repeated check-up examinations in our Clinic in both 1967 and 1968. A comparison with the Annual Report for 1967 reveals that the cases for 1967 are now fewer than they were in the 1967 Report. The revision which has been made is based on the results of repeated examinations, and the difference is due to difficulties encountered in the determinations of visual acuity. These difficulties tend to decrease as the patients grow older or become more familiar with the examination set-up.

The International Classification of Causes of Blindness has also been used in the registration of persons with low vision, i. e. with a visual acuity of less than 6/18. The system is not intended for that purpose, but it has proved acceptable.

It was of great importance that *Dr. Schappert-Kimmijser* paid a visit to our Eye Clinic in 1968, as we then had an opportunity to discuss the registration with her.

It is seen from the tabulation, which now comprises 42 blind persons and 50 partially sighted, that optic atrophy is by far the most frequent cause of blindness (15 cases). This was commented on in the Annual Report for 1967. Excessive myopia is the most common cause of *low vision* (17 cases) – as compared with optic atrophy (13 cases). The remaining cases are as yet too few to provide useful information. As stated in last year's report, by a nation-wide registration of mentally retarded persons suffering from blindness or low vision it would be possible, within a short space of time, to collect valuable information

both of the need for special care of such visually handicapped persons and of the causes of their visual handicaps. The Eye Clinic will be able to keep such a register.

Collection of Slides

Our collection now comprises 235 slides illustrating pathological changes in the eyes.

Collaboration with the National Welfare of the Blind

This collaboration began in 1967. The ophthalmologist of the Eye Clinic notifies the Preparatory School for the Blind and Partially Sighted at Refsnæs of the patients who may be presumed to be able to derive benefit from the activities of the school. A teacher for the blind then pays visits to the schools, institutions or kindergartens which the patients attend, and to their homes. A report from the teacher is submitted to the Eye Clinic, and the ophthalmologist has on several occasions arranged meetings with the teachers for the blind. In addition, some children have been admitted to the school at Refsnæs for observation for short periods.

On the initiative of Dr. J. Lenstrup, head of the Children's Hospital in Vangede, regular meetings are held for the teachers of the blind, kindergarten teachers and the nursing and medical staffs with a view to improving the training of the blind children in the hospital. At these meetings, the Eye Clinic is represented by the ophthalmologist.

Kindergarten for the Blind

A kindergarten for blind children has been established in the Children's Hospital. Two kindergarten teachers care for the five children admitted to it. As appears from the survey of blind and partially sighted persons, more kindergarten accommodation for blind individuals, both children and adults, is required in Copenhagen.

Histological Studies

In 1968, collaboration was established with the Ophthalmopathological Laboratory in Copenhagen. *Dr. S. Ry Andersen* offered an opportunity for us to have eyes from patients subjected to autopsy in the institutions for the mentally retarded in Copenhagen studied histologically. As nearly all such pa-

tients have been examined in the Eye Clinic, it must be presumed that the material thus obtained will in a few years provide valuable information of ophthalmic disorders in patients with severe cerebral malformations.

Papers and Publications

In addition to instruction given to nurse trainees, the ophthalmologist (M. W.) of the Eye Clinic has read to following papers:
"An Immobilising Contact Lens". Danish Ophthalmological Society.

With H. Skydsgaard: "Traumatic Blindness" – 30 Years' Experiences in the National Institute for the Blind in Copenhagen. Danish Ophthalmological Society.

"Blindness and Low Vision among 445 Children from the Institute for the Mentally Retarded at Brejning, Jutland". Danish Society for Research into Oligophrenia.

"Two Years' Experiences in the Eye Clinic for the Mentally Retarded in Copenhagen". Danish Ophthalmological Socicty.

"Collaboration between Ophthalmologists and Teachers for the Blind and Partially Sighted". Course on Handicapped Children held by the Danish Postgraduate Training College.

"Indications for Low-Vision Aids". Course for Teachers for the Blind and Partially Sighted held at Gl. Avernæs by the Danish Postgraduate Training College.

"Size of Print and Low Vision". Course for Teachers for the Blind and Partially Sighted held by the Danish Postgraduate Training College.

"Multi-handicapped Persons Suffering from Blindness or Low Vision". Course for Teachers for the Blind and Partially Sighted held by the Danish Postgraduate Training College.

The following publications have appeared from the Eye Clinic:

Mette Warburg: Norrie's Disease. J. Ment. Defic. Res. *12*, 247, 1968.
Mette Warburg: Mental Retardation Complicated by Blindness or Low Vision Photo-Offset, the Refsnæs School.

METTE WARBURG, M. D.
Consultant Ophthalmologist

BIRTE LINELL
Secretary

Abbreviations: B, boys; M, men G, girls; W, women	Age					
	0-14		15-69		70 -	
	B	G	M	W	M	W
02. *Syphilis cum sequelis*						
02. 020. 0. Keratitis parenchymatosa syphilitica				1		
04. *Viroses*						
04. 122. 1. Toxoplasmosis	1					
16. *Neoplasmata benigna*						
16. 223. Neoplasma benign. oculi				1		
30. *Morbi inflammatorii oculi*						
30. 370. Conjunctivitis infectiva	1			4		
30. 370. 10. Conjunctivitis acuta				1		
30. 370. 20. Conjunctivitis actinica			1			
30. 371. Blepharitis		1				
30. 374. 70. Keratoconjunctivitis				1		
30. 375. 10. Chorioiditis disseminata			1			
30. 375. 40. Chorioditis seq.				1		
30. 379. Alii morbi inflammatorii oculi						1
30. 380. Anisometropia			1	2		
31. *Anomalia refractionis*						
31. 380. 10. Astigmatismus	2		3	2		
31. 380. 30. Hypermetropia	14	10	11	12	2	
31. 380. 40. Hypermetropia excessiva ($\geqq +5$)	1	3	1	2		
31. 380. 50. Myopia simplex	1	2	2	6		
31. 380. 60. Myopia excessiva ($\leqq -5$)	7	4	7	7		
31. 380. 70. Presbyopia			3	2		
31. 383. Pterygium			1			
31. 384. *Strabismus*						
31. 384. 10. Amblyopia ex anopsia strabotica				1		

(Cont.)

(Cont.)

	Age					
	0-14		15-69		70 -	
	B	G	M	W	M	W
31. 384. 30. Esophoria		1	1			
31. 384. 31. Esotropia monolateralis	11		2	1		
31. 384. 32. Esotropia alternans	6	3	2	2		
31. 384. 40. Exotropia	2	1		3		
31. 384. 41. Exotropia monolateralis	3	3	1	2		
31. 384. 42. Exotropia alternans	2	4	1	3		
31. 384. 70. Insufficientia convergens				1		
31. 384. 80. Ophthalmoplegia int. et ext.				1		
31. 384. 90. Paralysis n. abducentis				1		
31. 385. *Cataracta*						
31. 385. 10. Cataracta senilis			1	1	2	1
31. 385. 20. Cataracta complicata				1		
31. 387. *Glaucoma*						
31. 387. 40. Glaucoma simplex			1			
31. 388. *Alii morbi oculi*						
31. 388. 07. Lagophtalmus						1
31. 388. 08. Ptosis palpebrae non congenita			1			
31. 388. 31. Erosiones recidivans				1		
31. 388. 32. Keratoconus				1		
31. 388. 50. Ectropion					1	
31. 388. 72. Atrophia n. optici	15	5	2	2		
31. 388. 73. Degeneratio maculae senilis					1	
31. 388. 76. Fibroplasia retrolentalis	1					
31. 388. 77. Oedema papillae n. opt.	1	1				
44. 453. 03. Tortuositas vasorum	1					
86. *Malformationes congenitae*						
86. 753. 00. Cataracta cong.	3	1	1	1		
86. 753 19. Ptosis palpebrae	2					
86. 753. 30. Cystis dermoides corneo-scleralis	1					

(Cont.)

(Cont.)

	Age					
	0-14		15-69		70 -	
	B	G	M	W	M	W
86. 753. 34. Keratoglobus			1			
86. 753. 35. Megalocorneae	1					
86. 753. 40. Peter's anomaly			1			
86. 753. 43. Coloboma iridis, chorioidcae		1				
86. 753. 61. Anomalia vascularisationis retinae et papillae			1			
86. 753. 62. Alia malform. nerv. opt. non specific.		1				
86. 753. 64. Cystis retinae	1					
86. 753. 65. Degencratio macularis	1					
86. 753. 66. Degeneratio tapetoretinalis				1		
86. 753. 76. Microphthalmus		1		1		
86. 758. 20. Hypertelorismus	1					
87. *Laesiones in partu, asphyxia, infectiones neonatorum*						
87. 769. 80. Toxoplasmosis cong., immaturitate indicata	1					
88. *Symptomata, senilitas, casus male definiti*						
88. 781. 10. Agnosia optica		1	1			
88. 781. 30. Hemianopsia homonyma			1			
88. 781. 15. Nystagmus	5	1	2	1		
88. 781. 151. Nystagmus latens		1				
88. 781. 153. Nystagmus rotatorius	1					
88. 781. 154. Nystagmus undulans			1			
88. 793. 03. Observatio	1					
96. *Contusio sine laceratione cutis*						
96. N 921. Contusio oculi, orbitae	1					
Y. *Casus speciales, examinationes sine morbo*						
Y. 09. Persona sine symptomati morbi	17	7	7	3		

1. By Actiology			Age					
			0-14		15-69		70 -	
			B	G	M	W	M	W
Infectious diseases								
14.0	Meningitis	1967	1					
23.0	Rubella	1967		1				
25.1	Toxoplasmosis prenatal	1967	2					
	Toxoplasmosis prenatal	1968	1					
29.0	Infectious diseases, not specified	1967				1		
Accidents, poisoning, violence								
46.0	Surgical or medical procedure	1967	1					
46.15	Dysoxygenation	1967	1			1		
49.0	External cause not specified	1968	1					
General diseases not elsewhere classified								
65.8	Other disorders of central nervous system specified	1967	1	1				
	Other disorders of central nervous system specified	1968	2					
65.9	Disorder of central nervous system, not specified	1967	1					
	Disorder of central nervous system, not specified	1968	1	1	1			
Prenatal influence not elsewhere classified								
81.0	Genetic origin established	1968	1					
88.0	Other prenatal influence not elsewhere classified, specified:							
88.10	Central nervous system	1967	2	2				
	Central nervous system	1968		1				
88.20	Chromosomal	1967			1			
88.40	Syndromes	1967	1					
89.0	Prenatal influence not specified	1967	6	1				
	Prenatal influence not specified	1968	1					
91.0	Unknown to science	1967		2	1			
	Unknown to science	1968			2	1	1	
98.0	Evidence insufficient for diagnosis	1968					1	
	Total		23	9	5	3	2	

II. By Site and Type of Affection			Age					
			0-14		15-69		70 -	
			B	G	M	W	M	W
Eyeball in general								
122	Myopia, detachment of retina not specified	1967			1			
	Myopia, detachment of retina not specified	1968			2	1		
Cornea								
370	Keratoconus	1967			1			
Lens								
410	Cataract	1967	3	2				
	Cataract	1968					1	
Uveal tract								
560	Chorioretinitis	1967	1			1		
	Chorioretinitis	1968	1					
Retina								
630	Retrolental fibroplasia	1967	1			1		
650	Tapetoretinal degeneration and allied conditions including retinitis pigmentosa	1967		1				
660	Macular degeneration	1967	1					
Optic nerve, optic pathway, and cortical visual centres								
710	Optic nerve atrophy	1967	6	3				
	Optic nerve atrophy	1968	5	1			1	
750	Lesion of optic pathway or cortical visual centre	1967	1	1				
	Lesion of optic pathway or cortical visual centre	1968		1	1			
Vitreous								
880	Other affection of vitreous specified	1968	1					
Site and type indefinite or not reported								
945	Amblyopia uni- or bilateral, not explained	1967	2					
950	Congenital nystagmus	1967	1					
	Total		23	9	5	3	2	

I. By Aetiology			Age					
			0-14		15-69		70 -	
			B	G	M	W	M	W
Infectious diseases								
25.1	Toxoplasmosis prenatal	1967			1	1		
Accidents, poisoning, violence								
45.0	Birth process	1967	2		1	1		
	Birth process	1968				1		
General diseases not elsewhere classified								
65.0	Other disorder of central nervous system specified	1967		1				
	Other disorder of central nervous system specified	1968	1					
Prenatal influence not elsewhere classified								
81.0	Genetic origin established	1967		1				
	Genetic origin established	1968				1		
82.0	Genetic origin probable	1967	1					
	Genetic origin probable	1968				1		
88.0	Other prenatal influence not elsewhere classified, specified:							
88.10	Central nervous system	1967	3	3	1			
	Central nervous system	1968	1	1				
88.20	Chromosomal	1967	1			1		
88.40	Syndromes	1967			1			
89.0	Prenatal influence not specified	1967	1	1				
	Prenatal influence not specified	1968	1		1	1		
91.0	Unknown to science	1967	1		3	2	1	1
	Unknown to science	1968	2	1	1	6	1	
98.0	Evidence insufficient for diagnosis	1968						1
		Total	14	8	9	15	2	2

11. By Site and Type of Affection			Age					
			0-14		15-69		70 -	
			B	G	M	W	M	W
Eyeball in general								
122	Myopia, detachment of retina not specified	1967	2		2	4		
	Myopia, detachment of retina not specified	1968	2	1	2	3	1	
144	Microphthalmos	1967				1		
	Microphthalmos	1968				1		
145	Aniridia	1967		1				
146	Coloboma, any part, excluding surgical	1967		1				
Cornea								
319	Keratitis, other type specified	1968						1
370	Keratoconus	1968				1		
Lens								
410	Cataract:							
410.10	Cataract cong.	1967						1
410.20	Cataracta senile	1967			1		1	
	Cataracta senile	1968				1		
Retina								
650	Tapetoretinal degeneration and allied conditions including retinitis pigmentosa	1967		1	1			
	Tapetoretinal degeneration and allied conditions including retinitis pigmentosa	1968				1		
660	Macular degeneration	1967	1					
Optic nerve, optic pathway, and cortical visual centres								
710	Optic nerve atrophy, optic neuritis or papilloedema	1967	4	1	2	1		
	Optic nerve atrophy, optic neuritis or papilloedema	1968	2	1		2		
740	Affection of optic nerve, not specified	1967	1					
750	Lesion of optic pathway or cortical visual center	1967		1				
Site and type indefinite or not reported								
950	Congenital nystagmus	1967	1	1	1			
	Congenital nystagmus	1968	1					
		Total	14	8	9	15	2	2